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Terms	Documents
(status near5 request) same plural\$3 same (data adj1 bus)	21

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L3 710/15,19,100,11,300,105,107,305,315;702/122;340/3.1;709/208,224,253;712/31;370/464;714/4

DB=EPAB,JPAB,DWPI,TDBD; PLUR=YES; OP=OR

L2 (status near5 request) same plural\$3 same (data adj1 bus)

DB=PGPB,USPT,USOC; PLUR=YES; OP=OR

L1 (status near5 request) same plural\$3 same (data adj1 bus)

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L4 l1 and L3

L3 710/15,19,100,11,300,105,107,305,315;702/122;340/3.1;709/208,224,253;712/31;370/464;714/4;

DB=EPAB,JPAB,DWPI,TDBD; PLUR=YES; OP=OR

L2 (status near5 request) same plural\$3 same (data adj1 bus)

DB=PGPB,USPT,USOC; PLUR=YES; OP=OR

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	U	1	Document ID	Issue Date	Pages	Title	Current OR	Current XRef
1	<input type="checkbox"/>	<input type="checkbox"/>	US 6687857 B1	20040203	38	Microcomputer which can execute a monitor program	714/38	714/30; 714/726;
2	<input type="checkbox"/>	<input type="checkbox"/>	US 6535948 B1	20030318	10	Serial interface unit	710/310	
3	<input type="checkbox"/>	<input type="checkbox"/>	US 6201789 B1	20010313	110	Network switch with dynamic backpressure per port	370/230	370/360
4	<input type="checkbox"/>	<input type="checkbox"/>	US 6101614 A	20000808	11	Method and apparatus for automatically scrubbing ECC	714/6	710/39; 710/40;
5	<input type="checkbox"/>	<input type="checkbox"/>	US 5043883 A	19910827	32	Pipe-lined data processor system of synchronous type	711/169	711/147; 711/148
6	<input type="checkbox"/>	<input type="checkbox"/>	US 4855730 A	19890808	7	Component audio/video system with timed control of plural	340/825.24	340/825.25; 348/734
7	<input type="checkbox"/>	<input type="checkbox"/>	US 4808992 A	19890228	7	Component audio/video system with automatic turn-off of	340/825.24	348/706; 386/96
8	<input type="checkbox"/>	<input type="checkbox"/>	US 4636939 A	19870113	173	Parallel bus protocol	710/109	
9	<input type="checkbox"/>	<input type="checkbox"/>	US 4620273 A	19861028	12	Terminal control system and method of terminal control	700/7	
10	<input type="checkbox"/>	<input type="checkbox"/>	US 4523272 A	19850611	10	Bus selection control in a data transmission apparatus	710/107	
11	<input type="checkbox"/>	<input type="checkbox"/>	US 4257095 A	19810317	33	System bus arbitration, circuitry and methodology	710/119	

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Local Computer Networks, 1989., Proceedings 14th Conference on , 10-12 Oct 1989

Pages:180 - 188

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A fair distributed queue dual bus access method

Khalil, K.M. Koblentz, M.E.

Bell Commun. Res. Inc., Piscataway, NJ, USA;

This paper appears in: Local Computer Networks, 1989., Proceedings 14 Conference on

Meeting Date: 10/10/1989 - 10/12/1989

Publication Date: 10-12 Oct. 1989

Location: Minneapolis, MN USA

On page(s): 180 - 188

Reference Cited: 4

Inspec Accession Number: 3668104

Abstract:

The distributed queue dual bus (DQDB) has emerged as a proposed draft standard of the IEEE 802.6 Metropolitan Area Network Working Group. DQDB nodes using the arbitrated access mechanism are shown to access the transmission medium in a fair manner. The fundamental access properties of this asymmetric access property are analyzed in detail and simulation modeling results are shown that verify the analysis. A modified access control mechanism is proposed that augments the normal DQDB information about downstream nodes with **status** information about upstream nodes, thereby allowing the distributed queue dual bus nodes to behave like a centralized queue with a round-robin queueing discipline. This is accomplished based on distributed control of the slot reservation **requests** in order to minimize the effects of propagation delay and allow multiple simultaneous entries in the distributed queue. For each DQDB priority level, this may be accomplished by the addition of a few bits in the access control field and two counters per bus. The proposed mechanism is shown to be robust in the presence of transmission errors in the access control field.

Index Terms:

computer interfaces computer networks performance evaluation protocols queueing standards telecommunication traffic IEEE 802.6 Metropolitan Area Network Working Group asymmetric access property bit transmission errors distributed queue dual bus downstream nodes modified access control mechanism multiple simultaneous entries priority level propagation delay proposed draft standard protocols queued arbitrated access mechanism round-robin queueing discipline simulation modeling results slot reservation requests nodes

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☐ 1. Document ID: US 20040128416 A1

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File: PGPB

Jul 1, 2004

PGPUB-DOCUMENT-NUMBER: 20040128416

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040128416 A1

TITLE: Apparatus and method for address bus power control

PUBLICATION-DATE: July 1, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Kurts, Tsvika	Haifa		IL	
Orenstien, Doron	Haifa		IL	
Yuffe, Marcelo	Binyamina		IL	

US-CL-CURRENT: 710/107; 713/300

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMC	Draw D
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☐ 2. Document ID: US 20030149819 A1

L4: Entry 2 of 3

File: PGPB

Aug 7, 2003

PGPUB-DOCUMENT-NUMBER: 20030149819

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20030149819 A1

TITLE: Method and apparatus for ascertaining the status of multiple devices simultaneously over a data bus

PUBLICATION-DATE: August 7, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Smith, Robert B.	Loveland	CO	US	
Cross, Ted	Fort Collins	CO	US	

US-CL-CURRENT: 710/100

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Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. De
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☐ 3. Document ID: US 4523272 A

L4: Entry 3 of 3

File: USPT

Jun 11, 1985

US-PAT-NO: 4523272

DOCUMENT-IDENTIFIER: US 4523272 A

TITLE: Bus selection control in a data transmission apparatus for a multiprocessor system

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. De
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L4: Entry 2 of 3

File: PGPB

Aug 7, 2003

PGPUB-DOCUMENT-NUMBER: 20030149819
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20030149819 A1

TITLE: Method and apparatus for ascertaining the status of multiple devices
simultaneously over a data bus

PUBLICATION-DATE: August 7, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Smith, Robert B.	Loveland	CO	US	
Cross, Ted	Fort Collins	CO	US	

APPL-NO: 10/ 068029 [\[PALM\]](#)
DATE FILED: February 6, 2002

INT-CL: [07] [G06 F 13/00](#)

US-CL-PUBLISHED: 710/100
US-CL-CURRENT: [710/100](#)

REPRESENTATIVE-FIGURES: 1

ABSTRACT:

Techniques are provided for simultaneously ascertaining the status of a plurality of devices coupled to a data bus. A master device transmits at least one status request message over the data bus to a plurality of slave devices. In response, the plurality of slave devices transmit to the master device a status indicator message including a plurality of status indicators indicating statuses of the plurality of slave devices. The master device receives the status indicator message and ascertains the status of at least some of the plurality of slave devices by examining the status indicators. The status request message and/or status indicator message may be a message defined according to a protocol associated with the data bus. The data bus may, for example, be a serial data bus such as an I.sup.2C bus.

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US006535948B1

(12) **United States Patent**
Wheeler et al.

(10) Patent No.: **US 6,535,948 B1**
(45) Date of Patent: **Mar. 18, 2003**

(54) **SERIAL INTERFACE UNIT**

5,758,075 A • 5/1998 Liang et al. 710/105
5,850,268 A • 12/1998 Ohki et al. 348/535

(75) Inventors: Paul Kurt Wheeler, Allentown, PA
(US); Andrew Lawrence Webb,
Hamilton, NJ (US); William G.
Burroughs, Macungie, PA (US)

• cited by examiner

(73) Assignee: Agere Systems Inc., Allentown, PA
(US)

Primary Examiner—Peter Wong
Assistant Examiner—David Glass
(74) Attorney, Agent, or Firm—Ryan, Mason & Lewis, LLP

(*) Notice: Subject to any disclaimer, the term of this
patent is extended or adjusted under 35
U.S.C. 154(b) by 307 days.

(57) **ABSTRACT**

A serial interface unit having an input shift register adapted to receive a serial input data from a serial data stream, and a destination request module. The input shift register converting the serial input data into a parallel input data. The input shift register in communication with at least two processors and the destination request module. The destination request module in communication with one of the at least two processors in response to an input shift register status signal and a processor designation signal, the selected processor adapted to receive the parallel input data.

(21) Appl. No.: 09/583,493

(22) Filed: May 31, 2000

(51) Int. Cl. G06F 13/36

(52) U.S. Cl. 710/310

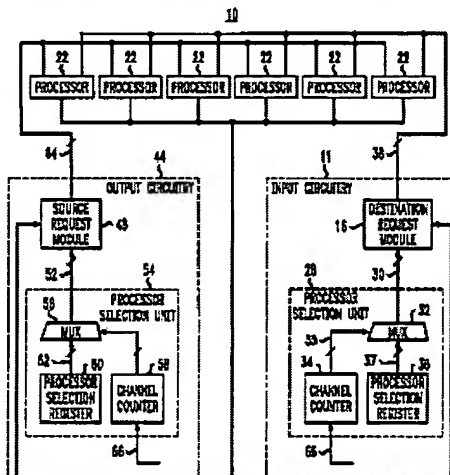
(58) Field of Search 710/105, 310

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5,426,784 A • 6/1995 Kewala et al. 365/219

42 Claims, 3 Drawing Sheets



US-PAT-NO: 4808992

DOCUMENT-IDENTIFIER: US 4808992 A

TITLE: Component audio/video system with automatic turn-off of peripheral devices

----- KWIC -----

Brief Summary Text - BSTX (8):

It has been recognized that a large number of audio/video and audio-only devices may be combined in a unified home entertainment system by providing a central control unit coupled via a digital data bus to individual device of the system. An example of such a system is described by B. W. Beyers, Jr. in U.S. Pat. No. 4,581,645 entitled DISTRIBUTED SWITCHED COMPONENT AUDIO/VIDEO SYSTEM. Other examples include U.S. Pat. No. 4,337,480 of Bourassin et al. entitled, DYNAMIC AUDIO-VIDEO INTERCONNECTION SYSTEM and U.S. Pat. No. 4,488,179 of Kruger et al. entitled TELEVISION VIEWING CENTER SYSTEM. R. A. Pitsch describes a bus-oriented system in an article entitled "Dimensia: The Next Dimension of Sight and Sound" published in RCA Engineer, July/August edition, 1985, at pp.66-70. In the described system the control bus provides two-way communication between a central controller and a plurality of individual device controllers. By this feature a user may transmit a status request and receive a response (displayed on the screen of his TV receiver) that gives the status (e.g., play, pause, etc.) of any selected device in his system. The user may also transmit commands via the two-way data bus to select and control the "status" or operating mode of individual audio and video peripheral devices connected to the bus.

(11) Patent Number: 4,808,992

[45] Date of Patent: Feb. 28, 1989

[34] COMPONENT AUDIO/VIDEO SYSTEM
WITH AUTOMATIC TURN-OFF OF
PERIPHERAL DEVICES

4,645,428 3/1987 Jones et al. 353/194.1

FOREIGN PATENT DOCUMENTS

0129286 12/1984 European Pat. Off. — 340/363 VL

[75] Inventors: Billy W. Beyers, Jr., Greenfield;
James E. Halley, Indianapolis, both
of Ind.

OTHER PUBLICATIONS

R. A. Fitch, "Dimensia, The Next Dimension of Sight and Sound," *RCA Engineer*, Jul/Aug. 1985, pp. 66-70.

Primary Examiner—John W. Caldwell, Sr.

Assistant Examiner—Edwin C. Holloway, III

Attorney, Agent, or Firm—Eugene M. Whitacre; Paul J. Rasmussen; Peter M. Harnadel

[21] Appl. No. 47,891

[22] Filed: May 8, 1987

[51] Int. Cl.⁴ H04Q 3/00

[52] U.S. Cl. 340/335.24; 358/181;

358/335

[58] Field of Search 340/825.06, 825.07,
140/825.23, 825.24, 825.25, 151/11, 2, 313

158/181, 188, 189, 194 1 315; 160/74 1 311

358/181, 188, 189, 194.1, 333; 360/74.1, 33.1

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3922641 11/1973 Orem, Jr. _____ 340/721.5

4,379,012 7/1981 Beckendorf et al. 340/225.22

4,337,480 6/1982 Bourassin et al. 358/93

4,400,733 1/1983 Schmitt, Jr. 138/181
4,418,333 11/1983 Schmitt et al. 140/273.37

4,455,179	12/1984	Kruger et al.	352/181
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4,327,104	7/1985	Kozakai et al.	of the 20-PPS may yield and	360/33.1
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4,381,643	4/1986	Boyer, Jr.	44 Sept 1986 2nd year anniversary	358/181
4,678,370	12/1986	Burrows		160/74.1

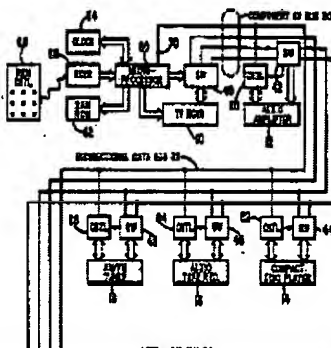
4,031,701	12/1988	Fukushima	380/381
4,031,601	12/1988	Brueggli et al.	338/339

[illegible]

ABSTRACT

A component audio/video system includes a system controller coupled to supply selection and control commands to a plurality of peripheral audio/video devices and to receive status messages therefrom. The devices may be selected to form a number of different recording configurations involving combinations of one or more recording signal sources and one or more devices for recording the signals. The system controller enters one of a number of different control modes for turning power off to the signal sources and recording devices depending on the status messages identifying recording configurations to enable continued recording by some devices when others run out of recording or playback media.

3. Carlson, 2 Drawing Sheets



United States Patent [19]

Nadlr

[11] 4,257,095

[45] Mar. 17, 1981

[54] SYSTEM BUS ARBITRATION, CIRCUITRY AND METHODOLOGY

[73] Inventor: James Nadlr, Sunnyvale, Calif.

[73] Assignee: Intel Corporation, Santa Clara, Calif.

[21] Appl. No.: 921,083

[22] Filed: Jan. 30, 1978

[51] Int. Cl.³ G06F 3/00

[52] U.S. Cl. 364/200

[53] Field of Search 364/200, 300, 200 MS File, 364/900 MS File

[56] References Cited

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3,825,902	7/1974	Brown et al.	364/200
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3,993,258	11/1976	Barlow	364/200
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4,148,011	4/1979	McLagan et al.	364/900 X
4,181,974	1/1980	Lenny et al.	364/900

Primary Examiner—James D. Thomas
Assistant Examiner—Thomas M. Heckler
Attorney Agent or Firm—Blakely, Sokoloff, Taylor & Zafman

ABSTRACT

Arbitration of a system bus shared by a plurality of digital processors, input and output devices and memories may be shared in an intelligent and efficient manner by using an arbitration method and an arbiter and bus controller circuit which allows a lower priority processor or user to access the system bus during those times in which a higher priority user of the system bus is not actively accessing the system bus. Thus, without altering the priority assignments among multiple users of a system bus, lower priority users requesting access may be allowed selective and limited access to the system bus during those times in which a higher priority user is in either an idle or halt state or is engaged in utilizing another bus, such as an input/output bus or resident bus.

21 Claims, 20 Drawing Figures

